

Appl. No. 10/735,036

Reply to Office Action dated October 1, 2004

REMARKS REGARDING AMENDMENTS TO THE DRAWINGS

In the Office Action, the Examiner has objected to FIG. 1 of the drawings, in that the reference characters "30" and "58" of FIG. 1 are not mentioned in the description.

Applicants have enclosed herewith a drawing page entitled "Replacement Sheet" and intended to replace originally filed FIG. 1. In the replacement sheet, the reference characters "30" and "58" of FIG. 1 have been deleted. Applicants respectfully request approval of these drawing changes.

REMARKS

Claims 1 – 6 are in the application as previously amended by Preliminary Amendment. In the Office Action, the Examiner has objected to the Declaration as being defective. The Examiner has also objected to certain reference characters in FIG. 1 of the drawings. In addition, claims 1, 2 and 5 have been objected to based on certain informalities. Claim 1 has also been rejected under 35 U.S.C. §102(b) as being anticipated by Kawai, U.S. Patent No. 3,939,899. Originally filed claims 2 – 6 have been rejected under 35 U.S.C. §103 as being unpatentable over the Kawai patent, in view of Witt, U.S. Patent No. 4,620,584. Applicants respectfully traverse the objections and the rejections, based on the proposed drawing change, the claims as amended and the following remarks.

With respect to the defective Declaration, Applicants understand that citizenship was not identified for one of the inventors. Applicants are in the process of obtaining a new Declaration from the inventor for which citizenship was not previously identified. A newly executed Declaration by this inventor, with the Declaration identifying citizenship, has not yet been able to be obtained. However, this will be obtained within the next week, and a newly executed Declaration, identifying citizenship, will be submitted to the Examiner.

With respect to the objections to the drawings, Applicants have earlier set forth herein proposed modifications to FIG. 1, and have also submitted a replacement sheet showing the proposed corrections in red ink. Applicants respectfully request approval of these proposed changes.

With respect to the objections raised by the Examiner, the Examiner stated that in claim 1, line 5, the word "the" should be changed to "a" before "sand hopper." This change has been set forth in the proposed amended claim 1. With respect to the objections to claim 2, claim

2 has been cancelled. With respect to the objection to claim 5, the term "the loader" in line 2 of claim 5 has been changed to "unloader" before the word "transfer." With these changes to claims 1 and 5, and with the cancellation of claim 2, Applicants respectfully request removal of the objections to these claims.

Applicants respectfully traverse the rejection of claim 1 under 35 U.S.C. §102(b) as being anticipated by Kawai, as the rejection may be applied to claim 1 as amended.

In the claims, claim 2 was directly dependent from claim 1, and defined the process as including the removal of excess sand from the core cavity of the core box, by introducing a vacuum manifold, and returning the unused vacuumed sand to the sand hopper for use in the next cycle. Claim 2 has been cancelled, and the subject matter of claim 2 has been incorporated into claim 1, as an amendment. As the Examiner has stated in the Office Action, Kawai does not specifically disclose the use of a vacuum manifold. For this and other reasons, Applicants respectfully submit that claim 1 as amended is not anticipated by Kawai.

Applicants respectfully traverse the rejection of claims 2 – 6 under 35 U.S.C. §103(a) as being unpatentable over the Kawai patent in view of Witt. Claim 2 has been cancelled. To the extent this §103 rejection may be applied to claim 1 as amended, Applicants also respectfully traverse any such prospective rejection.

Kawai does not disclose or suggest the use of a vacuum manifold within its shell molding machine. Witt discloses stools having openings 34 in their floors 15, connected by a pipe 35 to a header or duct 36. The header 36 connects to a control valve 37. In turn, the valve is connected by pipes 38 and 39 to a vacuum pump 40 and a compressed air blower 41, respectively.

As set forth beginning in column 4, line 15, the valve 37 is operated so as to connect the vacuum pump to air chambers in the stools when the sand is being poured or dumped into the flask section. Air is sucked through the passageways and the support plates in pattern halves. When the flask sections are filled and compacted, the valve 37 is operated so as to disconnect the vacuum pump. The blower 41 is then connected to the air chambers, so as to provide pressurized air in the passageways 25, 26. This assists in separation of the mold section and pattern.

As earlier stated, claim 2 has been cancelled. The subject matter of claim 2 has been incorporated within claim 1. This subject matter defines the process as including the removal of excess sand from the core cavity of the core box by introducing the vacuum manifold. Unused vacuumed sand is returned to the sand hopper for use in the next cycle.

Although Witt discloses the concept of utilizing a vacuum device, Witt neither teaches nor suggests the use of a vacuum manifold for removing excess sand from the core cavity of the core box, and returning the vacuumed sand to the sand hopper for use in the next cycle. Instead, Witt merely describes the concept of utilizing the vacuum pump 40 for purposes of compaction and densification of the sand during the filling of the flask section. Applying the teachings of Witt to Kawai does not teach nor suggest that subject matter which was set forth in originally filed claim 2, and is now set forth in amended claim 1. For these reasons, Applicants respectfully submit that claim 1 as amended is neither taught nor suggested by the alleged combination of Kawai and Witt.

With respect to claims 3 – 6, these claims have been amended in part to maintain proper claim dependency. Each of these claims is directly or indirectly from claim 1, as amended, and incorporates all limitations thereof. For the reasons previously set forth herein that

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claim 1 as amended is neither taught nor suggested by the alleged combination of Kawai and Witt, Applicants respectfully submit that none of claims 3, 4, 5 or 6 is taught or suggested by the alleged combination.

The Examiner has also set forth certain prior art made of record, and considered pertinent to the Applicants' disclosure. Applicants have reviewed these references and do not consider any of the references, taken either singularly or in combination, to teach or suggest Applicants' invention as defined in the claims as amended.

In view of the foregoing remarks and amendments, Applicants respectfully submit that claim 1 and claims 3 – 6 are now in condition for allowance, and early notification of allowability is respectfully requested. Should any questions arise in connection with the foregoing please contact Thomas L. Lockhart at the telephone number of (616) 336-6000.

Respectfully submitted,

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